FACTS & FIGURES

Domestic

	WEEKLY 5/8/82	5/1/82	5/9/81
Produc.			
Bituminous, recent week	17,449	17,752	8,909
Bituminous, year to date	**307,864**	**259,543**	—
Anthracite, recent week	129	132	40
Anthracite, year to date	**2,288**	**1,977**	—
Railroad carloadings			
Bituminous, recent week	117,941	119,879	61,093
Bituminous, year to date	**2,075,636**	**1,821,354**	—
Anthracite, recent week	154	334	243
Anthracite, year to date	**3,408**	**3,933**	—

Production data in thousands of short tons.
Source: U.S. Dept of Energy, Energy Information Administration—Weekly Coal Report.

	MONTHLY 1/82	12/81	1/80
Bituminous and Lignite			
Consumption			
Electric power utilities	57,156	52,966	51,068
Coal user stocks of coal			
Electric power utilities	152,855	163,356	178,269
Anthracite			
Consumption			
Electric power utilities	128	148	89
Coal user stocks of coal			
Electric power utilities	5,517	5,537	4,741

Note: Data give in thousands of short tons.
Source: U.S. Dept. of Energy Information Administration—Weekly Coal Report.

	WEEKLY 5/8/82	5/1/82	5/9/81
Production by states, bituminous and lignite			
Eastern			
Alabama	568	578	43
Georgia	—	—	—
Illinois	1,295	1,318	2
Indiana	638	649	223
Kentucky:			
Eastern	2,291	2,331	1,314
Western	877	892	341
Total, Ky.	**3,168**	**3,223**	**1,655**
Maryland	86	87	50
Ohio	817	831	292
Pennsylvania	1,753	1,784	774
Tennessee	199	203	149
Virginia	877	892	504
West Virginia	2,550	2,595	104
Total, Eastern	**11,951**	**12,160**	**3,826**
Western			
Alaska	16	16	14
Arizona	219	223	293
Arkansas	4	4	5
Colorado	398	405	371
Iowa	12	12	13
Kansas	16	16	20
Missouri	110	111	47
Montana	677	689	737
New Mexico	398	405	321
North Dakota	364	370	336
Oklahoma	112	114	67
Texas	657	669	612
Utah	299	304	127
Washington	104	105	118
Wyoming	2,112	2,149	2,002
Total Western	**5,486**	**5,592**	**5,063**
Total, United States	**17,446**	**17,752**	**8,909**

In short tons (000).
Source: U.S. Dept of Energy, Energy Information administration—Weekly Coal Reports.

	MONTHLY 3/82	2/82	3/81
Coal Labor			
All employees			
Coal Mining	255.9	254.5	252.9
Bituminous & Lignite	252.6	251.1	249.5
Production employees			
Coal mining	211.3	210.4	208.6
Bituminous & Lignite	208.3	207.4	205.6
Hours, weekly average			
Coal mining	41.2	41.6	36.6
Bituminous & Lignite	41.2	41.5	36.6
Earnings, hourly average			
Coal mining	12.31	12.37	11.40
Bituminous & Lignite	12.34	12.41	11.44
Earnings, weekly average			
Coal mining	507.17	514.59	417.24
Bituminous & Lignite	508.41	515.02	418.70

Source: U.S. Dept. of Labor, Bureau of Labor Statistics—Employment and Earnings.

	1/82	12/81	1/80
Coal User Production			
Major district users:			
Electric utilities			
(Mil Kwh.)			
Weekly, 3/30/82	113,818	106,608	103,258

Price indexes	MONTHLY 4/82	3/82	12/81
Bituminous Coal and Lignite	103.3	102.2	100.0
Primary Products	102.8	102.6	100.0
Prepared	102.8	101.7	100.0
Steam electric utilities	103.2	101.8	100.0
North Appalachia	101.4	102.1	100.0
Spot	101.9	N.A.	100.0
Contract	101.3	101.4	100.0
South Appalachia			
Contract	97.0	95.9	100.0
Midwest	108.4	103.5	100.0
Contract	109.6	104.0	100.0
West	104.3	105.0	100.0
Contract	104.3	105.0	100.0
Metallurgical coke producer	101.3	100.8	100.0
High volatile	101.6	101.3	100.0
North Appalachia	100.5	100.6	100.0
Contract	100.6	100.7	100.0
South Appalachia			
Contract	102.4	101.8	100.0
West	99.4	101.1	100.0
Low volatile	101.0	100.2	100.0
North Appalachia			
Contract	100.6	100.2	100.0
South Appalachia			
Contract	101.2	100.1	100.0
All other industrial	100.6	101.3	100.0
North Appalachia			
Contract	95.2	97.4	100.0
Midwest			
Contract	102.0	100.5	100.0
Unprepared (raw)	103.0	105.9	100.0
For preparation at other establishments	N.A.	N.A.	N.A.
For use without preparation	107.7	106.7	100.0
Anthracite	154.6	153.8	153.1
Primary products	154.2	153.6	153.0
Prepared anthracite shipped	155.3	154.5	153.7
Stove	151.3	N.A.	145.6
Chestnut	150.9	N.A.	145.1
Pea	163.1	N.A.	163.1
Buckwheat no. 1	149.0	N.A.	149.0
Buckwheat no. 2	162.9	N.A.	162.9
Buckwheat no. 4	147.0	147.0	N.A.
Buckwheat no. 5	112.0	112.0	N.A.

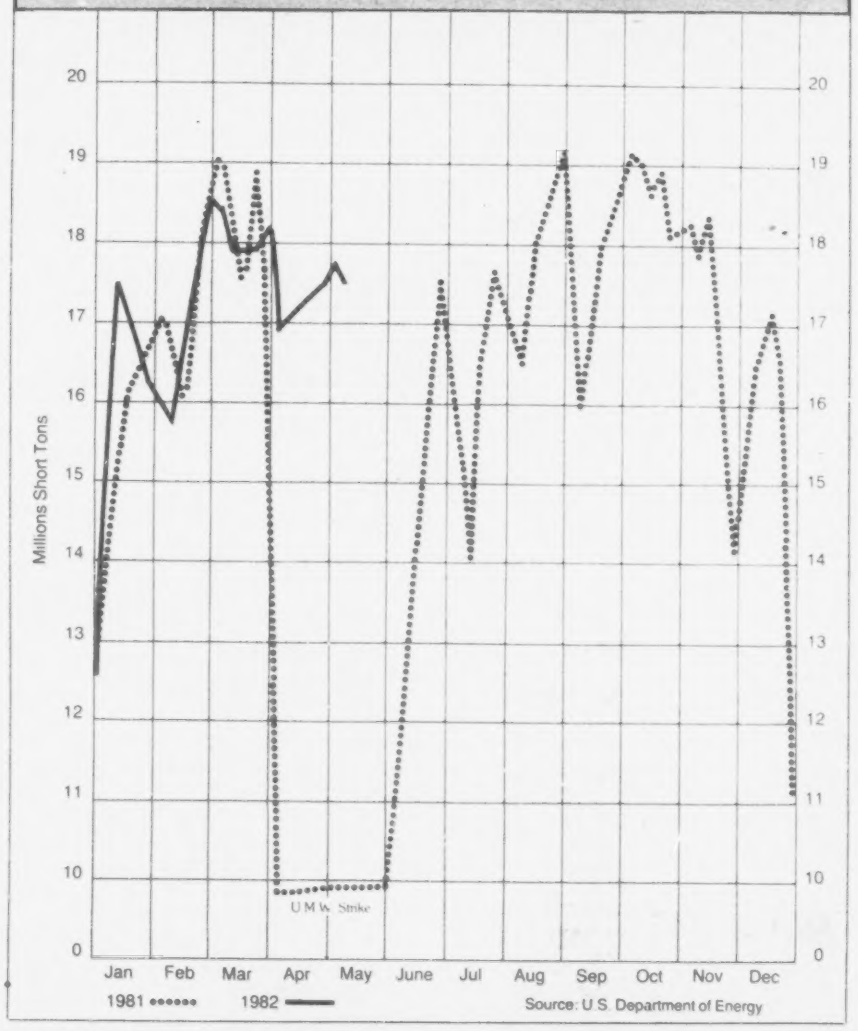
N.A.—Not Available

Source: Bureau of Labor Statistics, Dept. of Labor.

Note: The Bureau of Labor Statistics has recalibrated its producer price index figures for bituminous and lignite, as well as reorganizing its pricing categories. The new index is based on a compilation of average prices for December, 1981, and that month appears as 100. The former index used June, 1976 prices as its base.

LATEST U.S. PRODUCTION

Estimated Bituminous Coal and Lignite



BITUMINOUS AND LIGNITE production for the week ended May 8 reached 17.4 million short tons, the Department of Energy's Energy Information Administratin estimated. This was a 303,000-ton decrease, or 1.7 percent, from the preceding week. Production in the corresponding week of 1981 was 8.9 million short tons. From Jan. 1 though May 8, production totaled 307.8 million tons, an increase of 18.6 percent from the strike-torn corresponding period of 1981.

Exports & Imports

	Quantity in short tons 3/82	2/82	3/81	Dollar Value 3/82	2/82	3/81	Avg. Value per short ton 3/82	2/82	3/81
Bituminous coal, low volatile blends to make coke No. 5213110									
Belgium	814,007	411,761	305,705	41,252,017	22,197,611	18,463,439	50.67	53.90	60.40
Brazil	514,418	324,664	346,907	21,982,830	15,734,185	18,707,430	42.73	48.46	59.93
Canada	505	1,260	212,909	23,074	31,969	11,295,635	45.69	38.10	53.05
France	970,336	516,876	671,019	48,957,945	24,398,457	34,413,790	50.45	47.20	51.29
Germany, F.R. (West)	99,512	231,964	—	5,170,081	14,395,766	—	51.95	62.05	—
Italy	673,455	1,225,797	620,943	35,730,867	57,489,463	20,550,425	53.05	46.89	51.53
Japan	3,824,548	3,205,786	2,002,773	220,168,421	181,985,663	110,254,744	57.56	56.76	55.05
Netherlands	499,993	293,543	383,318	23,084,802	15,734,185	20,971,509	46.17	48.46	54.71
Spain	504,925	341,694	219,151	26,394,751	16,586,969	11,661,636	52.27	48.46	54.71
Sweden	—	80,243	—	—	4,751,960	—	—	59.21	—
United Kingdom	207,215	253,436	—	7,007,642	14,332,537	—	56.39	56.55	—
Yugoslavia	113,581	236,318	—	7,007,642	13,563,179	—	61.69	57.39	—
Total, above	8,222,495	7,122,921	4,859,543	441,457,836	379,503,233	330,692,692	50.02	53.27	54.04
Total, other nations	716,238	893,965	990,082	40,834,653	49,564,463	67,494,454	57.01	55.44	53.57
Total, all nations	**8,938,733**	**8,016,866**	**6,119,429**	**482,292,489**	**429,067,696**	**330,692,692**	**53.95**	**53.52**	**54.04**

	Quantity in short tons 3/82	2/82	3/81	Dollar Value 3/82	2/82	3/81	Avg. Value per short ton 3/82	2/82	3/81
Bituminous coal, others No. 5213120									
Belgium	34,857	176,570	—	1,639,716	8,794,066	—	47.04	49.80	—
Canada	819	3,150	—	32,760	4,568,550	—	40.00	49.80	—
China, Taiwan	57,605	118,382	—	2,566,976	4,568,550	—	44.56	38.39	—
Denmark	224,416	143,808	406,613	11,191,655	7,723,244	17,706,780	49.87	53.70	43.55
Finland	—	—	—	—	—	—	—	—	—
France	293,947	243,523	453,966	13,758,629	11,553,213	18,395,875	46.80	47.44	40.52
Germany, F.R. (West)	129,101	120,376	331,008	6,987,405	6,724,937	16,899,742	54.12	55.86	51.06
Italy	302,907	308,100	326,535	14,376,113	13,525,851	14,177,344	47.46	43.90	43.92
Japan	731,554	319,100	403,500	39,267,912	16,736,490	18,093,625	53.67	52.41	44.84
Netherlands	185,894	60,093	652,037	7,741	2,950,991	29,989,945	41.64	49.10	44.84
Spain	274,907	218,288	351,933	12,958,430	10,828,441	15,324,899	47.13	49.60	43.54
Total, above	2,236,007	1,711,574	3,048,562	110,521,089	83,536,811	135,447,196	49.42	48.80	44.43
Total, other nations	212,947	116,844	425,229	10,521,828	6,359,951	18,541,538	49.10	54.43	43.60
Total, all nations	**2,448,954**	**1,828,418**	**3,473,791**	**121,203,917**	**89,896,762**	**153,988,736**	**49.49**	**49.16**	**44.33**
Lignite No. 5213130									
Total, all nations	**3,642**	**2,325**	**2,835**	**342,437**	**248,349**	**503,069**	**94.02**	**106.86**	**177.45**
Coal coke for use as fuel No. 5213148									
Total, all nations	**84,734**	**101,474**	**124,512**	**6,542,520**	**6,525,777**	**7,647,872**	**77.21**	**64.30**	**61.52**
Petroleum coke, except calcined No. 5213150									
Canada	12,398	10,932	—	672,621	547,117	—	54.25	50.04	—
Japan	135,817	150,382	—	7,111,090	7,810,563	—	52.35	51.93	—
Netherlands	105,282	43,442	—	5,764,673	2,300,423	—	54.75	52.95	—
Total, above	253,497	204,756	657	13,548,384	10,658,108	33,450	53.44	52.05	50.91
Total, other nations	648,236	65,094	11,296	14,117,779	14,194,422	510,811	21.78	57.37	45.22
Total, all nations	**501,733**	**269,850**	**464,772**	**6,542,520**	**14,194,422**	**22,572,508**	**13.03**	**52.60**	**48.57**
Compositions for fuel No. 5213160									
Total, all nations	**79,008**	**8,582**	**67,153**	**182,602**	**514,116**	**1,612,343**	**23.11**	**59.90**	**24.01**
Anthracite No. 5213170									
Korea Rep. (South)	41,886	36,355	46,012	1,406,000	2,259,463	2,069,614	33.56	65.62	64.09
Total, all nations	84,411	44,274	114,067	3,214,323	2,905,552	5,015,652	38.07	65.62	43.97

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Wallop May Support Slurry Under Right Conditions

WASHINGTON — A key Senate Energy Commmittee member is on the verge of turning from an opponent into a supporter of coal slurry pipelines.

The office of Sen. Malcolm Wallop, R-Wyo., confirmed he would support a bill enabling pipeline projects to apply to state or federal court for eminent domain authority to seize rights of way. But that support is conditioned on the extension to all pipelines of language subjecting them to state water law, not just the ones applying for eminent domain.

Wallop introduced a bill containing the expanded water-protection language late last month. Sen. J. Bennett Johnston, D.-La., the principal Senate ramrod of coal slurry legislation, said it sets a precedent for giving states far more control over their water than they now enjoy.

Effect of the Wallop provision is to prevent pipeline companies not needing eminent domain from arguing in federal court that a state-ordered shut-off of water interferes in interstate commerce.

Without the Wallop provision, the 1,500-mile Energy Transportation Systems, Inc. pipeline could ask a federal court to enjoin state water authorities from diverting water to alleviate a drought or other emergency. The ETSI pipeline is about to begin construction near Gillette, Wyo., but will draw its water via aqueduct from South Dakota's Oahe Reservoir, fed by the Missouri River.

The chance to further solidify the right of states to control their water finally attracted Wallop to the slurry bill, seeing in it the chance to convert a legal threat to western water rights into a more powerful defense.

The conversion of Wallop from opponent to supporter does not cinch Senate Energy Committee approval, however. During hearings he called to investigate the impact of slurry pipelines on western water and build a case against them, committee chairman James McClure, R-Idaho, remained skeptical. He doubts that it provides adequate protection to other states sharing a water supply from which a pipeline jointly draws, foreboding a court battle and the reentry of the federal government if a dispute erupts.

McClure called the hearing to sink the eminent domain legislation by getting at the ETSI project. Witnesses included the

(Continued on page 2)

INSIDE

WESTMORELAND Coal sold its Hampton Roads shipping agency but will buy part of a planned Newport News pier. That and other **Reports from our Correspondents on page 2.**

COMPUTERS are the major factor in improving underground mining technology, reports Gene Smith in a **Focus Feature on page 6.**

FORCED CUTS in sulfur dioxide emissions by 1990 won't necessarily hurt projected coal useage overall, a new study suggests. **Story on back page.**

NEWS ROUNDUP

It was one thing to ask **marine vessel owners to pay dredging and port maintenance costs,** but now the Reagan administration is asking them to supply **36 percent of the Coast Guard's operating budget through users' fees.** Congress is feeling the wrath of boat owners from yachts to tankers over the plan to raise $439 million, with some large bulk carriers and oil tankers paying up to $14,000. The White House **hasn't found anyone willing to introduce the legislation** — so far.

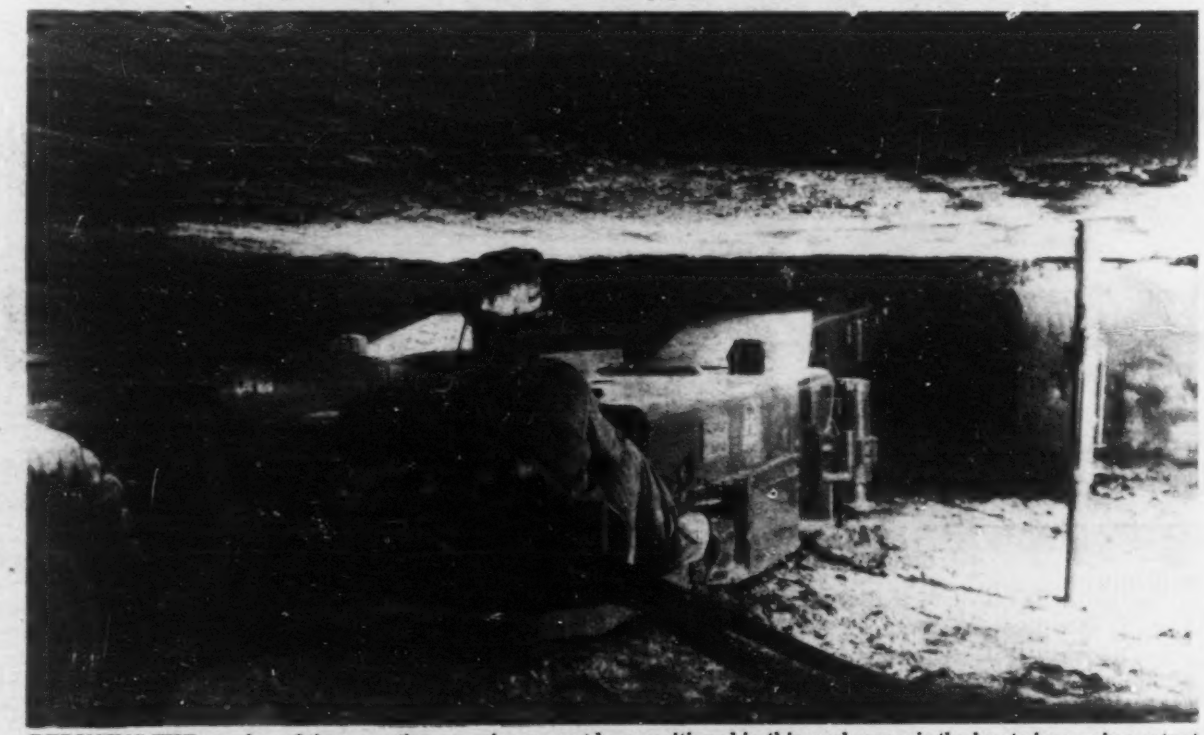
* * *

Westmoreland Coal, which has made some major news in the Hampton Roads-Newport News area (story on page 2), has signed **a long-term contract and stock purchase agreement with Veba AG,** a German holding company. In the stock purchase, Veba will pay Westmoreland between $27 and $30 per share for 15 percent of the Philadelphia independent. Veba has agreed to acquire no more than 5 percent more on the open market and Westmoreland has buy-back rights under certain conditions. The sales agreement calls for Westmoreland to supply 220,000 tons of steam coal in 1983 and 500,000 tons per year from 1984 through 1994, with periodic price negotiation and escalation for cost increases.

* * *

The first successful coal-water mixture test in a pressurized fluidized bed combustor took place at the Coal Utilization Research Laboratory operated in Leatherhead, England, by that country's National Coal Board. Nearly a ton of a commercially-purchased mixture of 65 percent coal and 35 percent water was burned in a 20-hour test sponsored by the U.S. Department of Energy.

(Continued on page 3)



REDUCING THE number of times continuous miners must be repositioned in thin coal seams is the key to increasing output in veins 37 inches and thinner, Keystone Coal Co. has found during experiments with new miner-coal haulage combinations.

Test Mining and Hauling Systems Boost Efficiency

By Steve Marcy

WASHINGTON — Recovering some underground mine productivity that has been lost to increased safety concerns will depend more heavily on moving higher volumes of coal away from the mine face.

The ultimate answer may lie in integrating cutting machines and continuous haulage conveyors or other machines into complete mining systems, Kenneth Levitz, general superintendent of Keystone Coal Co., told the American Mining Congress coal convention. Developing and mining those systems is at least five years away, he says.

Even mines with coal seams as thin as 36 inches can benefit from replacing shuttle car haulage systems with novel applications of continuous haulage techniques.

Keystone, headquartered in Indiana, Penn., has experimented with ripper-type continuous miners linked to chain type bridge conveyor systems to improve productivity that has fallen to 0.5 to 1.2 tons per work minute.

The biggest slowdowns with shuttle cars have occurred when adhering to Mine Safety and Health Administration rules limiting dust near the mine face. Regulations have required two passes of the mining machines along the face and frequent place changes of the mining equipment and shuttle cars. With hauling capacity already limited by confined space, which restricts shuttle car cargo volume, loading rates have slipped to between three and seven tons per minute.

Focus — UNDERGROUND See Page 6

Levitz told the coal convention he has seen a 30 percent drop in shuttle-car efficiency since the advent of MSHA regulations 12 years ago. Time consumed in keeping MSHA-mandated lighting and ground monitoring systems have contributed decreased productivity.

At the 37-inch median mining height of the test site, the mine had slightly inferior roof conditions. The entries were developed with shuttle rather than continuous haulage in mind and cross cuts were patterned to avoid clay veins and other areas of tender roof. Yet peak shift production proved 60 percent greater than the average for shuttle car units.

(Continued on page 8)

UNDERGROUND **A SPECIAL REPORT**

Productivity Dilemma

Will Recent Surge in Deep Mine Efficiency Bring Job Security or More Layoffs to Coal Fields?

By Steve Marcy

WASHINGTON — "Productivity" has become an embarassment and a potential fighting word in the coal industry these days.

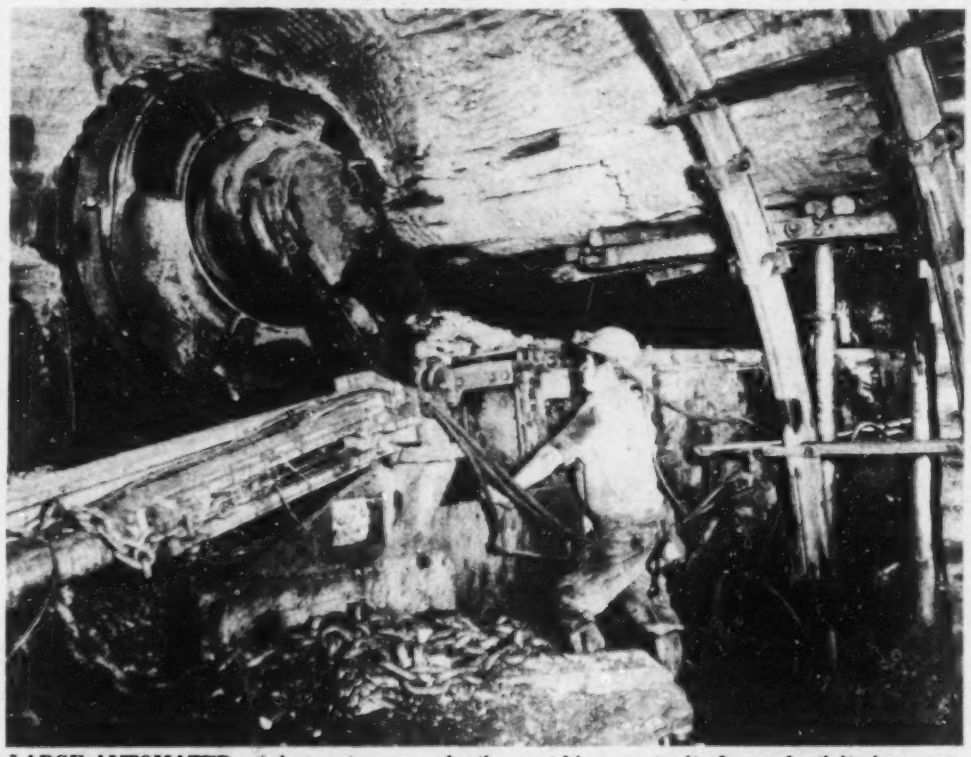
Not because it has become as enfeebled in the coal field as it has in the rest of U.S. industry, but because miners fear the word during a time of slackening electricity and coal demand. They see productivity as management cost-cutting at the expesne of their jobs and an increased work load for their bretheren who remain.

Coal company officials are hesitant to talk about productivity gains made in the past few years and their plans to increase them in the future, fearing they will be unable to make a case that distinguishes a better use of labor from a curtailment of it.

Merely talking about it, some officials fear, will unavoidably fuel the bitterness from what some now figure to be 80,000 unemployed miners.

One official estimates that fewer than 50 percent of the miners in United Mine Workers District 29 are employed; layoffs have continued steadily in the past few months.

And yet better labor-managment relations are primarily responsible for a reversal beginning in 1979 of the productivity declines that began with the passage of Mine Safety and Health Act in 1969.



LARGE AUTOMATED mining systems may be the next big opportunity for productivity increases. Advancements were made when wildcat strikes subsided, helping to reverse a decade-long decline in mining efficiency.

Productivity Gains

Productivity as measured by average tons per day reached its zenith in Illionis that year when it touched 22.9 tons, according to Taylor Pensoneau, vice president of the Illinois Coal Association.

It fell steadily each year throughout the 1970s until touching bottom in 1978 at 10.7 tons per man per day. But the next year it rose to 11.2 tons and up again to 11.4 tons in 1980, the last year for which the association has figures.

Industry leaders say it took a few years after enactment of the 1969 law to find new ways of roof bolting, suppressing respirable dust and a myriad of other innovations to move machines and get the coal to the surface as quickly as they once did. They still have a ways to go.

Then came the oil embargo and first round of price hikes in late 1973 that had the coal industry salivating over the prospect of a coal renaissance.

An observer of the UMW who asked not to be identified by name, says that industry may have sorted out the safety act well enough by the early 1970s to make productivity increases. But the increased and broadened pension plan of the 1974 wage contract looked to many companies as if it would entice many older miners to retire once the plan took effect. So they began recruiting and hiring a new generation of miners.

Profit Advances

The oil price increases of 1973-74 greatly increased the profits of the coal companies by allowing them to raise their prices. This price increase not only allowed the recruitment of a new generation of replacement workers, but also seemed to require an expanded labor force to work new mines that would be needed to satisfy a coming coal boom.

The retirement flood never crested, however, leaving both over-staffed mines and a stretched supervisory force that cut into productivity. The time absorbed in training and the overstaffing at the mines could still be absorbed by the profits brought by higher prices.

Age of the new miners generally averaged 20 to 22 years, the observers said, and brought to their jobs a youthful militancy that led to an increase in wildcat strikes during the mid 1970s.

By 1980, the average age in the coal fields had risen to 28. The responsibilities of starting families and the know-how gained from five or six years on the job brought a maturity to the new miners' work that greatly reduced the number of wildcat strikes, the observer said.

Many of these workers by 1980 had enough experience to move into foreman and other supervisory positions to relieve the strains that this managment layer had been under since the mid-1970s. This new generation of supervisory personnel were also much closer in age to the miners under them, bridging a generation gap that helped ease antagonisms and reduce wildcat strikes, the observer said.

Industry sources agree that the resulting over expansion led to the opening of more new mines than there were skilled miners, foremen and machinery to work. An official of an Appalachian company conceded that the mid-1970s expansion strained his company's team of mine superintendents and equipment maintenance schedules in a scramble for coal of marginal value in difficult seams.

Cutting Back

"We have to cut our mines back down to manageable size," the official said of a process that is almost complete for his company. His mines are at full employment with a stable labor force and a management structure that can cope with production goals. Unlike others in his region, he expects no more layoffs by his company.

The growing threat from western surface mining is partially responsible for those improved labor-managment relations. Pensoneau says the threat of lost markets to cheaply produced western

(Continued on page 7)

Coal Technology Advances Edge Toward Fully Automated Mining

By Gene Smith

NEW YORK — When it comes to underground mining technology, there's little difference from other businesses: Computers are coming on strong.

Other prospects, such as bringing coal out by air pressure in a pipe, are in varying stages of development. But research into computer applications suggests that today's youth playing "Pac-Man" may one day run underground mining equipment from a computer panel in a mine office miles away from the actual mine face.

Dr. Frederick C. Trutt, associate professor in Penn State's College of Engineering, led a team that put together an inexpensive method of designing systems to better protect mines' electrical power networks. "We took computer routines which we had previously developed for more expensive computers and reworked them for the Apple II computer, making them more accessible to smaller operators," Trutt explained.

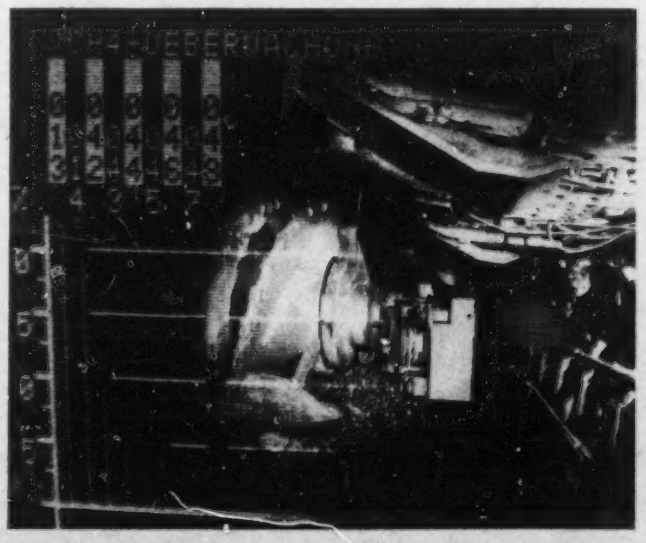
As the system gathers information vital to any mine's safe and economic operation, Trutt continued, "it insures that faults will be detected and isolated from the rest of the system, so that miners in the affected area stay safe while the rest of the mine continues to operate."

Special Programs

Virginia Polytechnic Institute has also developed software programs aimed specifically at the coal industry. Michael Kaas, director of the Office of Mineral Information Systems at the Bureau of Mines, described them as "a whole family of programs designed to aid the engineer from the basic evaluation of coal deposits through the designing of mining sections to a computer simulation of the expected output from that coal mine design."

VPI's Dr. Richard J. Lucas, head of the Department of Mining and Minerals Engineering, said the school's aim is to develop computer programs that will allow companies "to completely design a coal reserve area on paper, all the way through the mining to its depletion." He indicated that VPI is about halfway toward develop-

(Continued on page 8)



COMPUTERS ARE bringing increased safety and economy underground. Here, a computer screen image is superimposed on an underground mining scene.

Productivity Becoming a Fighting Word

(Continued from page 6)

coal has forced more cooperation between labor and managment. The number of wildcat strikes declined drastically after signing of the 1978 UMW-Bituminous Coal Operators Association wage agreement and nearly disappeared altogther since the 1981 pact.

The company officials and their trade associations say it is the end of the wildcat strikes that is the biggest booster of productivity. Everyone now realizes that coal in general and eastern deep coal in particular will not enjoy unassailed dominance as the energy source of the immediate future. There is competition from conservation and western coal producers that eastern producers and miners must face together in order to prevent their product from being priced out of the energy market.

Prospects of growing competition will require greater attention to the details of labor-management relations and good mining practices.

Management Training

Consolidation Coal Company, for instance, has had in effect for the past couple of years a first-line supervisor training program to make them more able to work with their crews, yielding safety and productivity increases.

The supervisory program includes eight days of fundamentals covering leadership, methods for building teamwork, resolving complaints and mine economics. Three days of classwork training and meetings with Consol officials are conducted at the firm's Pittsburgh headquarters. Five days of instruction are then given in the neophyte supervisor's work region.

Consol also has installed a maintenance engineering program that relies on detailed reports from foremen about equipment breakdowns. The information is analyzed by computer to detect any patterns of failure so that preventive maintenance steps can be taken and to determine which types of failure cause the greatest production losses.

Company officials discovered, somewhat to their surprise, that major breakdowns were not slowing production as much as minor failures. Robert H. Minor, a Consol vice president, said the biggest delays were coming from clogged water sprays, ruptured hydraluic hoses and failed electric cables.

Better management of machinery also has helped. Previously out of action for up to 20 working days when being moved, longwall machines can be moved to new locations within 10 days when careful attention is paid to planning and roof support measures.

Not all productivity gains have come about from an end to wildcat strikes and the introduction and better maintenance of new technology. An overextended coal industry reeling from slow growth in its principal market — the electric power industry — certainly cut its losses by closing its less efficient operations, laying off miners in the process.

But one observer noted that the union is beginning to realize that the coal that sells best in a glutted market is coal that can keep its price in line through lower production costs. It therefore has a stake in productivity.

PRODUCTIVITY IN ILLINOIS COAL MINING

(Average tons per man per day for underground and surface mines)

Year	Underground	Surface
1969	22.9	34.1
1970	19.8	32.4
1971	17.3	32.7
1972	16.3	35.3
1973	17.2	28.6
1974	16.0	27.6
1975	14.2	24.6
1976	13.4	19.4
1977	12.0	20.9
1978	10.7	20.4
1979	11.2	21.3
1980	11.4	22.1

Sources: Illinois Department of Mines and Minerals and Illinois Coal Association.

Shirvinsky Denies Pa. Deep Mines Near Bankruptcy

HARRISBURG — Rumors that several Pennsylvania deep mines were on the edge of bankruptcy were denied by John C. Shirvinsky, president of the Keystone Bituminous Coal Association.

His view was confirmed by staff on the Governor's Energy Council and in the Department of Environmental Resources, as well as by a research assistant to Rep. James L. Wright Jr., chairman of the House Mines and Energy Management Committee.

Shirvinsky added that some companies are "on the ropes" due to the downturn in the steel industry. Captive mines have been sold off, the Jones and Laughlin sale to Massey being the most recent.

There also have been a number of layoffs and temporary closings, Shirvinsky said. Laurel Mine, operated by Consol, recently announced a temporary layoff. However, he added "it would be unlikely for bankruptcies to come on that fast."

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